FISCHER'S MAGAZINE

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349

OCTOBER, 1923

THE MORE YOU KNOW,
THE MORE YOU KNOW
YOU OUGHT TO KNOW.

Fischer's Magazine

Devoted to the advancement of the Science of Electro-Physio-Therapy and to the interests of those earnest and enlightened medical men who are practicing it.

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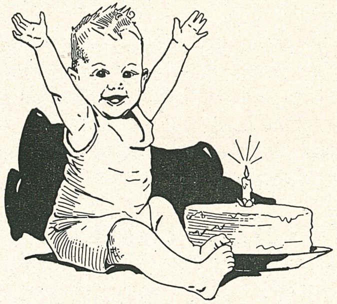

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He will continue to be fed on only the best, his habits are quite regular, and we fully intend that he be kept in the pink of condition.

On just what kind of diet do you think he would thrive best?

IN PREPARATION

DIATHERMY & ITS APPLICATION TO PNEUMONIA

BY

HARRY EATON STEWART, M.D.

Attending Specialist in Physiotherapy, U. S. Marine Hospitals, N. Y.; Consultant in Physiotherapy, U.S.V.B. Hospital, New Haven, Conn.; Director, New Haven School of Physiotherapy; Formerly Assistant Director, Section of Physiotherapy, Office of the Surgeon General, U. S. Army, and Supervisor of Physiotherapy, Bureau of U. S. Public Health Service, Washington; Author "Physical Reconstruction and Orthopedics"

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PUBLISHER'S NOTE

The author has had two years' experience in the treatment of pneumonia with diathermy in U. S. Marine Hospital, No. 21 (Staten Island), where every case was checked up by the full clinical and laboratory findings of the staff. The results obtained were as startling as they were gratifying.

In the Introduction Dr. Stewart acknowledges that the results obtained by some of his co-workers have surpassed his own. This would seem to indicate that the profession in general should duplicate or better the results reported.

The author insists that "hit or miss methods will not obtain good results in this work any more than they will in any other therapy or surgery." He has therefore written an unusually clear, but at the same time condensed, description of the physics, physiological effects and therapeutic indications of both medical and surgical diathermy. Technique is described with unusual clarity.

Particular emphasis is laid on the fact that diathermy properly applied is harmless under all conditions and that it brings almost invariable symptomatic relief. Above all *it has apparently lowered the general average mortality.* This lessened death rate was particularly evident in a carefully worked out comparison with a group of controls under conditions identical in every respect, except in the use of diathermy.

A large number of detailed case reports giving all the clinical and laboratory findings—the most conclusive evidence that a scientist can offer—are given in this book.

Practically every aide, nurse and physician who has actually seen the treatment *properly* given has expressed faith in diathermy as a therapeutic adjunct of distinct value in pneumonia.

The book will be profusely illustrated, well printed and well bound.

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The Treatment of Calcified Subdeltoid (Subacromial) Bursitis by Diathermy

(*Abstracted Journal A. M. A., July 14th, 1923*)

Dr. Joseph F. Harris, M. D., Associate Physical Therapist, Mount Sinai Hospital, New York City, advises that in the majority of these cases the diagnosis is confirmed by the Roentgen ray, and that Diathermia is, without doubt, the most valuable treatment indicated * * * .

* * * It is a proved fact that the maximum intensity of heat is always developed half way between the two plates, and it is due to this that deposits such as occur in Bursitis can be readily attacked. Diathermia really creates a noninflammatory reaction in the affected part, and it is due to this physiologic action that absorption of foreign substances takes place.

Dr. Harris advises that the electrical plates be placed anteriorly and posteriorly on the shoulder, and that care should be taken that the affected bursa lies directly between; that experience has shown that 500 to 700 milliamperes of current should be employed; that the first treatment should last 15 minutes, and increased daily until one-half hour's time can be given. He also advises that if the patient is suffering severely treatments should be given every day for a week, and then on alternate days. His case reports, which follow, are very interesting.

REPORT OF CASES

Case 1.—Mrs. M. F., aged 43, for eight weeks had suffered continuous pain and was unable to raise her arm from her side. A roentgenogram showed a calcification, under the right subdeltoid bursa, which measured 1 inch in length and one-half inch at its greatest width. At the beginning of this trouble, all abscessed teeth had been removed. She received, in all, fourteen treatments, one every other day, and at the end of that period the pain had disappeared and the motion of the arm was normal. I have been able to keep track of this patient for two years, and at no time has she complained of shoulder disability.

Case 2.—H. A. S., a man, aged 36, complained of occasional pain and slight disability only when doing certain acts, such as removing his hat or tying his tie. In this case roentgenograms confirmed the diagnosis by showing a small deposit in the right shoulder subacromially. This measured about one-fourth inch in length. At the end of fifteen treatments all the symptoms had entirely disappeared. Two months after, the patient returned for more treatment, having put excessive strain on his right arm. Owing to the irritated condition of his shoulder, it was necessary for me to give him twenty-five more treatments, but he has been free from all symptoms for over a year. In all fairness, I want to state, with reference to this case, that the average person would not pay much attention to the symptoms presented during his last course of treatment, but this man, being highly neurotic, was quite prone to exaggerate the slightest twinge.

Case 3.—H. B., a man, aged 74, was unable to dress himself, owing to pain and inability to move his shoulder. The case presented the usual symptoms and roentgen-ray findings. Before the roentgenograms were taken, the patient had been treated for arthritis. He received a daily treatment for seven consecutive days, and then was able to go to his home in the South, with no pain and no shoulder disability.

Case 4.—Mrs. M. S., aged 53, came for treatment after having been treated in the hospital for three days, with the arm in abduction. The roentgenograms revealed a deposit subacromially in the right shoulder. Pain was a constant symptom, as well as partial limitation in the shoulder joint. The patient required twenty treatments, but at the end of that time she had the full use of her shoulder joint and was free from pain.

Case 5.—F. F. S., a man, aged 42, was carrying his right arm in a sling and was suffering so acutely that it was necessary to undress and dress him, when I first saw him. The findings were of the usual type. The patient received seven consecutive treatments. After the first three, he was able to sleep at night without the use of drugs, and at the end of seven treatments, all symptoms had disappeared.

Case 6.—H. H., a man, aged 38, was found, by means of the roentgen rays, to have deposits in both shoulders nearly the size of a robin's egg, an unusual condition. Surgical intervention had been advised, since he was unable to raise either arm from the side. Owing to the stress of business affairs, he could not take the time necessary for the operation. He received on each shoulder twenty-one treatments and, at the end of that period, he was able to raise both arms to the level of his shoulders. As his main purpose was to evade operative procedure, he discontinued treatment at this stage, evidently being satisfied with this improvement.

Observations of results indicate that when employing this method of treating Subacromial Bursitis about 80 per cent of the patients recover, and that the remaining 20 per cent either discontinue treatment or are not helped. The treatment is not painful, and as in most instances the patients have been advised to have this calcification removed surgically, it is readily seen that Diathermy is to be tried first.

Diathermy in Hypotension

By Elnora C. Folkmar, M. D., Washington, D. C.

There is a class of cases that gives the physician even more trouble than the high blood pressure cases. These complain of chilly feelings, have cold hands and feet, no appetite, insomnia, mental depression, no energy, lack of physical strength. They have low blood pressure and subnormal temperature. For these cases diathermy is a very rational treatment, per se, or as an adjuvant to endocrine, diet, or drug therapy. Diathermy gives the thermogenic mechanism a rest, by supplying the heat which the body cannot produce, and thus permits it to resume normal functioning. Daily treatments of fifteen minutes to one-half hour should be given on the condenser chair or pad. Use 500 to 800 milliamperes of current. At first, special care must be taken not to give too vigorous a treatment or the patient may faint. The oral temperature should be taken before and again after treatment. There should be an increase of .5 to 1.5 degrees. When the patient retains the increase in temperature until the next day, treatments may be given on alternate days.

Some Uses for Diathermia

C. S. King, M. D., Washington, D C.

The chief use of Diathermia is in deep-seated conditions as distinguished from superficial ones. These conditions are such as joint affections, bronchitis, pneumonia and tuberculosis (both pulmonary and laryngeal). It is also useful in absorbing scar tissue, such as over deposit of bone scar after a fracture. In such cases, however, it must be used with caution, as in one of my cases, in a delayed union, we overtreated and absorbed some needed scar tissue that had been deposited.

While we are on the subject of bone tissue it is well to suggest that a number of mild treatments, say of 10 minutes at 300 to 600 milliamperes, according to the thickness of the section of body treated, is stimulating to the formation of normal tissue; while a long, heavy treatment such as one hour at from 600 to 1500 milliamperes tends to absorb tissue and to sterilize, as is needed in pneumonia, bronchitis, tuberculosis, adhesions, etc.

If you will get firmly fixed in your mind that Diathermia is relaxing, deeply sterilizing and absorbent in effect, while the monopolar or Oudin is stimulating and superficially sterilizing and absorbent, you will have a clear-cut indication for each modality from your high frequency apparatus.

For instance, if you are treating a cold in the head, or a muscular lameness, or a recent injury, the monopolar (Oudin) current is the desirable one. It is wonderful how much it helps take out the soreness from a sprain as in the ankle or the knee, or the back, or an intercostal rheumatism; but, if you have a joint injury, or a congestion or inflammation deep within the body, in the intestines or in the pelvis, Diathermia is indicated.

The more severe and acute the condition, the longer should be the treatment—say one hour, as in bronchitis, pneumonia or in pelvic cellulitis. In tuberculosis, however, use about a half hour's treatment daily or every other day, as the case improves. Cod Liver Oil should always be given with tubercular conditions as it supplies the greatest amount of fat-soluble vitamins available from any fat, and rebuilds lung tissue. I use Scott's Emulsion as the more agreeable form, but pure Norwegian Cod Liver Oil is better if it is tolerated by the patient.

If you have not the actinic rays available, as furnished by the air-cooled mercury vapor lamp, it is well to use a 1000 watt or 1500 watt lamp in connection with your tuberculosis cases. Follow the Diathermia with a gentle vibratory treatment over the same area lasting about 7 minutes—2 minutes over front of chest and 5 minutes over back of chest and on down the spine, avoiding the spinous processes. In acute cases treat two or three times daily. In chronic cases daily or every other day.

If there is persistent pricking under the pads in Diathermia, it means either that the metal plate has not been smoothly applied to the skin, or that there are breaks or poor connections in the cords or in the machine. Care should be taken that there are no sharp points, as on the edges, touching the patient, otherwise there will be a persistent pricking effect. There should be no sensation except that of a gentle warmth (and that more of a body warmth than surface) while taking Diathermia.

Patients are apt to drowse off, as the treatment is relaxing and comforting; also, as they usually perspire, they must be protected by covering and wiping off vigorously following the treatment.

I always tie a stout cord to the switch that breaks the current, and have my patient hold this string. If anything happens to cause a burning or biting sensation from the Diathermia, due to a broken contact somewhere, the patient can open the switch immediately and not wait for help. Otherwise there might be a skin burn that leaves an unpleasant memory. Diathermia is the most powerful treatment we

use in the office, and at the same time it gives the least trouble and sensation when properly applied.

Do not be misled by anyone telling you to employ *wet felt pads* for Diathermia. Never use anything but *bare metal material, preferably mesh.* I buy in ten-pound lots. The Flexible Mesh material and Pads as made by H. G. Fischer & Co. are excellent. The objection to the use of a wet felt pad is that the heat of the Diathermia treatment causes steam to form which is apt to burn your patient at the surface, which is in itself an entirely different treatment from the deep action of the Diathermia as has been described in the foregoing.

Also, if the treatment is long continued, these wet pads dry out in spots, which causes the current to concentrate in what wet areas remain, and burning will again result. It is extremely bad technic to use wet felt pads, and I have protested to the manufacturers against permitting their agents to recommend them. All experts in Diathermia will confirm this recommendation of the use of bare metal plates. The plates and the patient's skin must always be well moistened with warm soap lather.

Major C. M. Sampson, M. D., formerly of the U. S. Army and later of the U. S. Public Health Service, but recently resigned from government service, has written a splendid book on Electro-physiotherapy subjects. You should get one of these books, entitled "Physiotherapy Technic." Major Sampson has probably treated a larger number of patients by these methods than has any other person. As many as 50,000 to 60,000 each month were treated in his clinic at Fox Hills, Staten Island, N. Y., where he was stationed during the war and after in the reconstruction period.

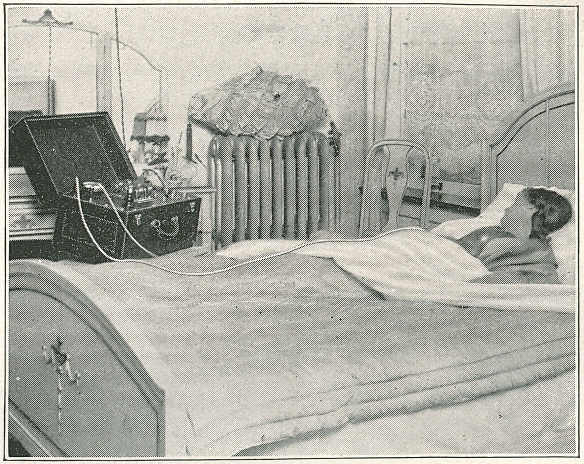
DR. HARRY EATON STEWART, of New Haven, Connecticut, says, in concluding a very interesting paper on the treatment of Pneumonia with the Diathermy Current in which he recounted a number of case reports:

"In several of the cases the Diathermy was not instituted until in favorable cases the temperature might be expected to start downward, but it is the opinion of the medical staff at the U. S. Marine Hospital No. 21, New York City, who selected these as test cases, that Diathermy helped in their recovery.

"When we have had many more cases to report on, we hope to be able to make a more definite statement, but this much we do know—that in *every single case* and in almost *every single treatment* the temporary effect upon the patients was remarkable. Cyanosis disappeared. The expiratory grunt when present was remarkably lessened or stopped entirely. Respirations were less labored and the patient received from two to four hours of very marked relief, in many cases obtaining some sleep.

"Now Diathermy has been ordered as soon as the diagnosis is made in every case of Pneumonia at the Marine Hospital. It is not too much to assume that in many critical cases this marked relief of symptoms may be the turning point in disease.

"Under proper technic there is no danger of ill effects from two or even three Diathermy treatments per day. The proper technic is of the greatest importance. The fall of temperature takes place by lysis where Diathermy is used. Pneumonia attacks all ages, and the rugged as well as the weak. The death rate is so high that any method of treatment which will lessen it to any extent is invaluable. *The results of this work are sufficiently encouraging to justify the wider employment of Diathermy in this disease.*"



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Correct Auto-Condensation Technic

In response to a question on the subject, our good friend Dr. Burton B. Grover, of Colorado Springs, advises:

"While many methods have been advocated for employing the D'Arsonval Auto-Condensation current for the reduction of high blood pressure, the correct procedure is—Patient on either couch or chair pad, reclining if possible; metal handle held firmly in both hands; pass from 300 to 500 milliamperes for 13 to 15 minutes.

"The dose should never exceed 700 millis at any time when given to reduce blood pressure. With metal handle in the hands the blood is heated gradually and the effects are more lasting. Just who introduced the method of placing a large electrode on the chest, abdomen, or both in Auto-condensation, I cannot say, but frankly I do not approve. The electrode in this position does not administer Auto-condensation at all; it is indirect Diathermy, and is advisable in cases of bronchitis, etc.

"When a kidney is to be treated, one electrode should be placed over the kidney, the other on the abdomen directly opposite. There is no excuse for treating a kidney by the indirect method; it should always be treated *directly*. The blood pressure reduction is one of the incidents to this method.

"High milliampereage is undesirable in Auto-condensation, but generally of extreme importance in Diathermy. I see no good reason for hands and feet being connected, with the auto pad as the other terminal. However, I see no objection. Hand-and-foot Diathermy is desirable in some cases for its effects upon general metabolism.

"Always advise the neophyte to never exceed 700 milliamperes in Auto-condensation treatments. Large doses will do more harm than good, and throw a monkey-wrench into a perfectly good therapeutic measure.

"I have administered thousands of Auto-condensation treatments, and have learned the advantages as well as the follies of this end of the High Frequency game."

Visceral Adhesions

Frederick M. Morse, M. D., Boston, Massachusetts

Visceral adhesions arise from so many different causes that the etiology must always be considered before any intelligent procedure should be undertaken for relief.

Adhesions following surgery about the duodenum, gall bladder, and appendix regions, where a purulent condition existed previously, is usually to be preceded and followed by post-inflammatory fixed areas where surgery perhaps offers the only solution.

Many apparent adhesive conditions that are diagnosed by tenderness, pain, and X-ray diagnosis at abnormal angles and distentions about the hepatic, splenic, and sigmoid flexures of the colon are often elusive.

In lieu of a Wasserman test, the iodides and mercurials are often given to establish a diagnosis. Likewise, mechanical gymnastics intelligently applied often changes an apparent surgical case into a non-surgical case, which might apply to the stomach, duodenum and colon more especially.

Adhesions following plastic peritonitis is a regenerative process and is often followed by the formation of firm adhesions which in time may disappear. Electrical and mechanical treatment in these cases usually hasten recovery.

The process that may be instituted with safety where there is no purulent area intervening is the application of diathermy directly through the part under consideration, or mild currents of galvanism followed by wave current effects with an alternating current. This latter procedure increases cell activity and favors elimination of retained infiltrations.

The reversing of the galvanic current as may be done by the sinusoidal apparatus would, in the opinion of the writer, often result in exhausting the vitality of the parts that we hoped to regenerate.

The Proper Application of Mesh Diathermy Electrodes

Questions received in our daily mails indicate, both from the quantity as well as the nature of the contents, that an article pertaining to the proper method of applying *Mesh* electrodes is quite in order.

There are two distinct methods of applying both the mesh and block tin electrodes when employing Diathermy—the *plate* method and the *cuff* method.

For all flat surfaces, as for example on the trunk, the plate method will be found most convenient and adaptable. Coat the skin and the under (smooth) side of the mesh with warm soap lather. Place the mesh perfectly flat on the skin, with no wrinkles or high spots, and retain in place with a flexible, half-filled sand-bag.

Do not use a sand-bag of the heavy, bulky, thick variety that will slide off at the first move of your patient, but one carefully designed for the purpose. This is made of a strip of heavy cloth or light canvas about 10 inches wide by 20 inches long, folded over lengthwise to form a bag 5 x 20 inches. Sew cross seams 5 inches from each end to form two pockets, each 5 inches square. Use only sufficient sand to half fill these two pockets, leaving the center strip flat. When this bag is placed over your patient the flat part only bears on the electrode—the weights hang down at the sides. The weight of the patient will hold the under electrode in place, and the half-filled sand-bag is laid over the upper electrode. Slip one of the small connectors on the tip at the end of the rubber covered cable, and place this connector between the mesh and the sand-bag. No fastening is required either underneath or on top.

The cuff method, however, should always be employed when treating a joint, such as the knee or elbow. Use two pieces of mesh 3 inches wide and sufficiently long to pass all around the limb with a slight overlap. Coat the skin and the under (smooth) side of the mesh with warm soap lather. Place one cuff five inches below the joint and the other five inches above. Hold these cuffs in place with two turns of a good elastic bandage, tucking the end under the first layer to prevent unwinding.

Bind sufficiently tight to prevent slipping, but always make allowance for the natural swelling of the part under the Diathermy heating to prevent any restriction. Pass your finger between the mesh and the bandage and insert the connector which in turn is fastened to the end of the rubber covered cable. This makes perfect contact and will not slip.

Dr. Gustav Kolischer—Again

Brief, But to the Point, as Usual

Diathermy is practicable in all instances in which heat produced within the tissues of the human body appears to be desirable as a therapeutic factor.

This item of generating the heat within the tissues is the paramount advantage of Diathermy over any other method. Heat applied to the surface of the body by means of a hot water bag or an electric pad penetrates to a very limited depth only, and cannot be regulated.

With the help of Diathermy we are in a position to administer heat wherever it is desirable, and to any area—superficially or to any desired depth. The degree of heat produced may be gauged and regulated within any limits desired.

To distinguish between Medical and Surgical Diathermy, the former term applies to any heating within physiological limits while the latter is applied to destructive heating, for desiccating structures—as tumors.

Medical Diathermy is used to advantage in all instances where absorption is intended, or where localized increase of the blood supply is desired. Therefore, Diathermy is used for the treatment of all exudates; for instance, in arthritis, pleurisy, pneumonic infiltrations, indolent parametric exudates, and in chronic prostatitis and vesculitis.

For destruction of superficial benign growths the Surgical Diathermy is used in the form of Fulguration; that is, using the Electric Spark.

More substantially, malignant tumors are desiccated (or coagulated) by the use of larger stamp-shaped electrodes that are brought in intimate contact with the growth. One may either catch the tumor between the two active metallic electrodes, sending the current directly through in various diameters, or apply an inert large electrode somewhere on the surface of the body and press the active electrode upon the growth to be coagulated. Here again the superiority of Diathermy, by virtue of the possibility of exactly gauging the extent of destruction, and by the orderly procedure of the whole manipulation; the degree of penetration being entirely under control.

Technic of Diathermy and Indication for Its Use

R. Grunbaum (Wiener klinische Wochenschrift, January 11, 1923) has improved his technic of diathermy therapy of chilblains to such an extent, that he uses this treatment even in the severest cases of frostbites. For example, have the patient place the tips of his toes in running water and apply the other electrode to both thighs, with the result that the current flows from the tips of the toes through the entire leg and thus affects a large vascular area. In addition to frostbites a suitable field of diathermy treatment are the diseases of the accessory nasal sinuses, cicatricial bands and abdominal adhesions; also chronic parametritis and perimetritis.

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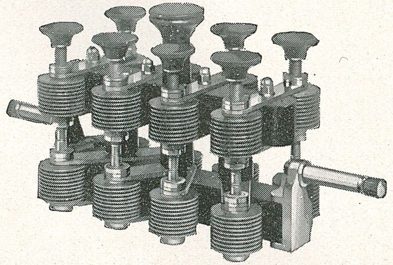

The illustration tells the rest of the story, and one such gap on your machine will be a revelation to the operator. And the price is reasonable.

Catalog No. 1222—Complete "Kolischer" Gap—price $75.00

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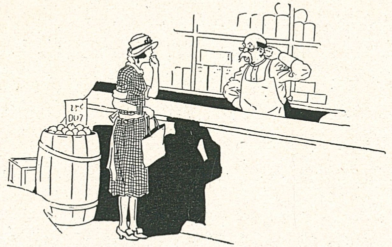

Young Bride (timidly): "Eh—I'm not joking—eh—I mean I really want to buy some—quite seriously —eh—might I ask if you have any bananas?"

□ □ □

Young Wife—The postoffices are very careless sometimes, don't you think?

Friend—Why do you think so?

Young Wife—Fred sent me a note yesterday from Philadelphia where he is stopping on business, and the silly postoffice people put an Atlantic City mark on the envelope.

□ □ □

The melancholy days are here,
And there's a darn good reason;
The overcoat I wore last year
Won't stand another season.

□ □ □

"Ma, if the baby was to eat tadpoles, would it give him a big bass voice like a frog?"

"Good gracious, no! They'd kill him."

"Well, they didn't."

Little Sally—"When I get to be mamma, will I have a husband like papa?"

Mother—"Yes, dear."

Little Sally—"And if I do not get married, will I be an old maid like Aunt Kate?"

Mother—"Well, I guess so, honey."

Little Sally—"Well, I guess I am in a fix, mamma."

□ □ □

Young Brown, who had been married but a few days, sought out his friend, Jones, who was a family man of long experience, for a little advice.

"Jim," said Brown, "what did you call your mother-in-law after you got married?"

"Well, I'll tell you," replied Jones, "for the first year I addressed her as 'Say,' and after that we all called her 'Grandma'."—Judge.

THE PRACTICAL MAN KNOWS HOW—
THE SCIENTIFIC MAN KNOWS WHY—
THE SUCCESSFUL MAN KNOWS BOTH.